

What is Claimed is:

1. A method of manufacturing discharge lamps comprising the steps of:
providing a discharge vessel that defines a light emitting discharge space; and
introducing a predetermined amount of halogen into said discharge space:
wherein said predetermined amount of halogen is introduced into said discharge vessel by heating at least one halogen-introduction carrier composed of a porous body containing at least one adsorbed metal halide.
2. The method of manufacturing discharge lamps as described in claim 1, wherein said at least one halogen-introduction carrier is located inside said discharge vessel and is heated from an outside source.
3. The method of manufacturing discharge lamps as described in claim 2, wherein said discharge vessel includes a main tube and first and second elongated seal tube sections extending from opposite ends of said main tube; wherein electrode bars are positioned extending into said discharge space; and wherein said at least one halogen-introduction carrier is mounted on at least one of said electrode bars within said discharge space.
4. The method of manufacturing discharge lamps as described in claim 1, wherein said discharge vessel includes a main tube and first and second elongated seal tube sections extending from opposite ends of said main tube; wherein an auxiliary tube is connected to an outer end of one of the seal tube sections; wherein said halogen-introduction carrier is disposed in said auxiliary tube; wherein said halogen-introduction carrier is recovered by removal of said auxiliary tube after release of the metal halide and sealing of the seal tube section to which the auxiliary tube is connected; and then extracting the carrier from the auxiliary tube for re-adsorption with a metal halide and subsequent reuse.
5. The method of manufacturing discharge lamps as described in claim 1, wherein the metal halide is selected from the group consisting of compounds of chlorine and mercury, bromine and mercury or iodine and mercury.

6. A method of manufacturing discharge lamps as described in claim 1, wherein said metal halide is mercury bromide (HgBr_2).

7. A method of manufacturing discharge lamps as described in claim 1, wherein said halogen-introduction carrier is a porous body composed of a high-melting point metal or of ceramic.

8. A method of manufacturing discharge lamps as described in claim 7, wherein said halogen-introduction carrier is a porous body composed of sintered tungsten, aluminum oxide or silicon dioxide.

9. A method of manufacturing discharge lamps as described in claim 8, wherein said halogen-introduction carrier is a porous body composed of tungsten having a density from 8 to 13 g/cm^3 .

10. A method of manufacturing discharge lamps as described in claim 3, wherein said discharge space has a volume of at most 80 mm^3 and the predetermined amount of halogen is between 1.7×10^{-4} and $6.7 \times 10^{-4} \text{ } \mu\text{mol/mm}^3$.

11. An assembly for producing a discharge lamp comprising:
a discharge vessel comprised of a tube that defines a light emitting discharge space and an elongated seal section extending from each of opposite ends of said tube;

first and second electrode assemblies positioned within a respective elongated sealed section of said tube and including an electrode rod having a distal end including a discharge electrode which projects into said light emitting discharge space, a lead rod and a metal body disposed between said electrode rod and said lead rod to electrically connect said lead rod and said electrode rod;

an auxiliary tube connected to the elongated seal section at one of said opposite ends of the tube, said auxiliary tube being closed at an outer end and open to said seal section; and

a porous body containing at least one adsorbed metal halide disposed in said auxiliary tube.

12. A discharge lamp comprising:

a discharge vessel comprised of a tube that defines a light emitting discharge space and an elongated seal section extending from each of opposite ends of said tube;

first and second electrode assemblies positioned within a respective elongated sealed section of said tube, each of which includes an electrode rod having a distal end including a discharge electrode which projects into said light emitting discharge space, a lead rod and a metal body disposed between said electrode rod and said lead rod to electrically connect said lead rod and said electrode rod;

wherein a porous body having at least one metal halide adsorbed thereon is mounted in the discharge space on the electrode rod at least one of said first and second electrode assemblies.

13. The discharge lamp as described in claim 12, wherein the volume of said light emitting discharge space is no greater than 80 mm^3 and a predetermined amount of halogen between $1.7 \times 10^{-4} \text{ } \mu\text{mol/mm}^3$ and $6.7 \times 10^{-4} \text{ } \mu\text{mol/mm}^3$ is contained therein.

14. The discharge lamp as described in claim 12, wherein said halogen-introduction carrier is a porous body composed of a high-melting point metal or of ceramic.

15. The discharge lamp as described in claim 14, wherein said halogen-introduction carrier is a porous body composed of sintered tungsten, aluminum oxide or silicon dioxide.

16. The discharge lamp as described in claim 15, wherein said halogen-introduction carrier is a porous body composed of tungsten having a density from 8 to 13 g/cm^3 .

17. The discharge lamp as described in claim 13, wherein said porous body is structured in a manner adapted to release said predetermined amount of halogen into said light emitting discharge space when heated.

18. The discharge lamp as described in claim 12, wherein said metal halide is selected from the group consisting of compounds of chlorine and mercury, bromine and mercury or iodine and mercury.

19. The discharge lamp as described in claim 12, wherein said metal halide is mercury bromide (HgBr_2).

Abstract of the Disclosure

A discharge lamp manufacturing method that provides control of the introduction of a predetermined amount of halogen, unaccompanied by carbon or hydrogen, into a discharge vessel of the lamp so that a discharge lamp having an adequate operating pressure and that can maintain enhanced lighting conditions over a long period can be achieved. In particular, a halogen-introduction carrier is used in the manufacture of the discharge lamp for introducing a predetermined amount of metal halide. The discharge lamp manufacturing method includes a device for introducing halogen into the discharge vessel and includes heating a halogen-introduction carrier composed of a porous body containing metal halides.

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